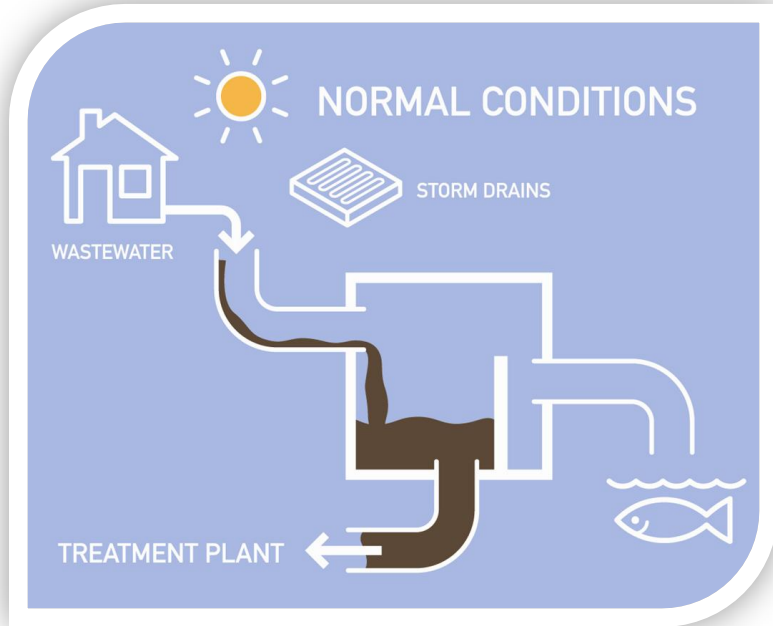


# **Henderson South Area Combined Sewer Overflow Reduction Projects**

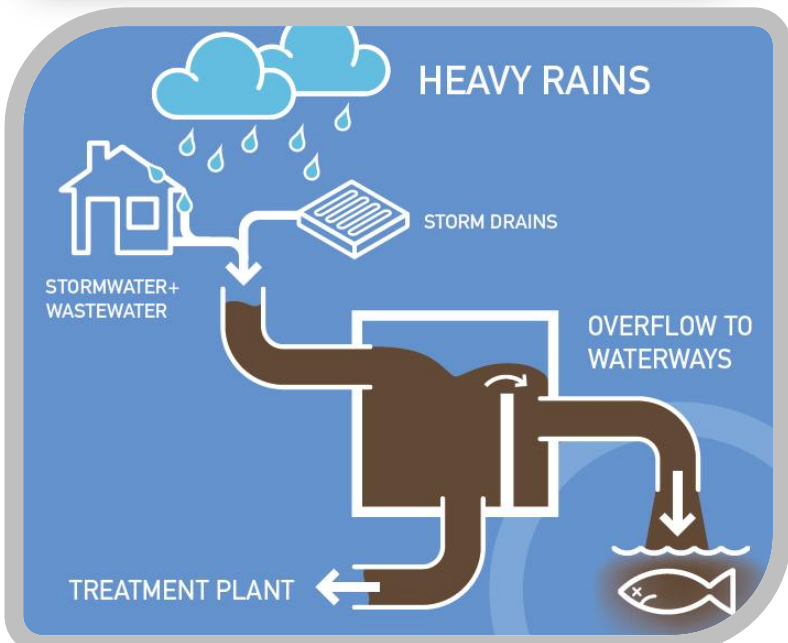


**May 26, 2011**

# What is a Combined Sewer Overflow?



💧 *Wastewater* (from homes) and *stormwater* (from rooftops, streets) flow in a single pipe - a “combined sewer.”



💧 During heavy rains, stormwater (~90%) and sewage (~10%) exceed the system, causing a combined sewer overflow (CSO) into nearest waterway.

# Combined Sewer Overflows (CSOs)

- 💧 90 permitted CSO outfalls
- 💧 100-200 million gallons CSO discharge annually
- 💧 About 200 CSO discharge events annually



# CSO Reduction Program Goals

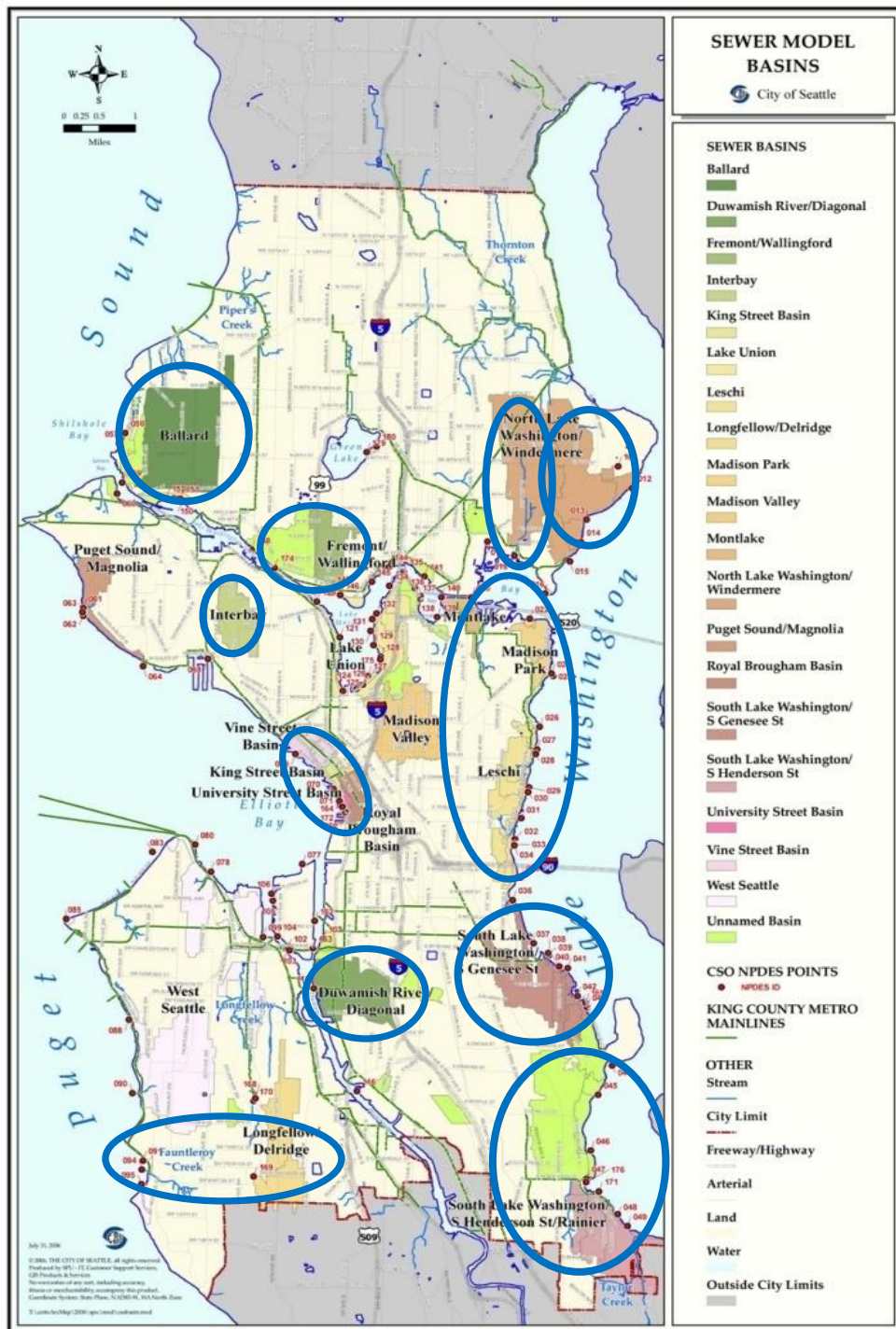
- 💧 Comply with Clean Water Act, state/federal regulations
  - 💧 *Goal is to reduce CSOs to no more than an average of one overflow per site per year.*
- 💧 Improve water quality
- 💧 Finish historic effort
- 💧 Minimize rate impacts
- 💧 Partner for cost-effective solutions



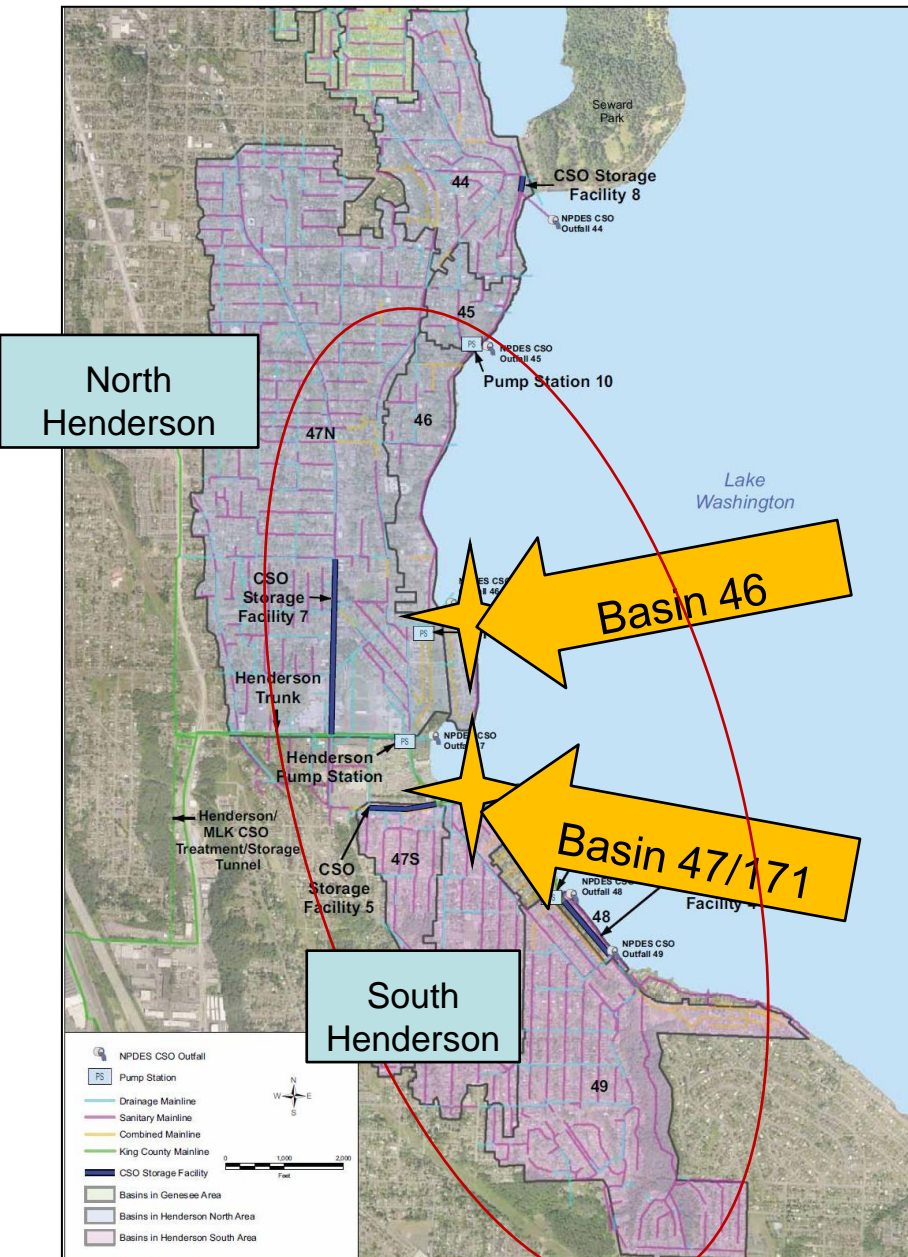


# Focus on Next 5 Years

- 💧 Improve existing system through retrofits
- 💧 Construct CSO reduction projects
  - 💧 Windermere, Genesee, and Henderson basins
- 💧 Pilot green infrastructure projects
- 💧 Complete Long-term Control Plan

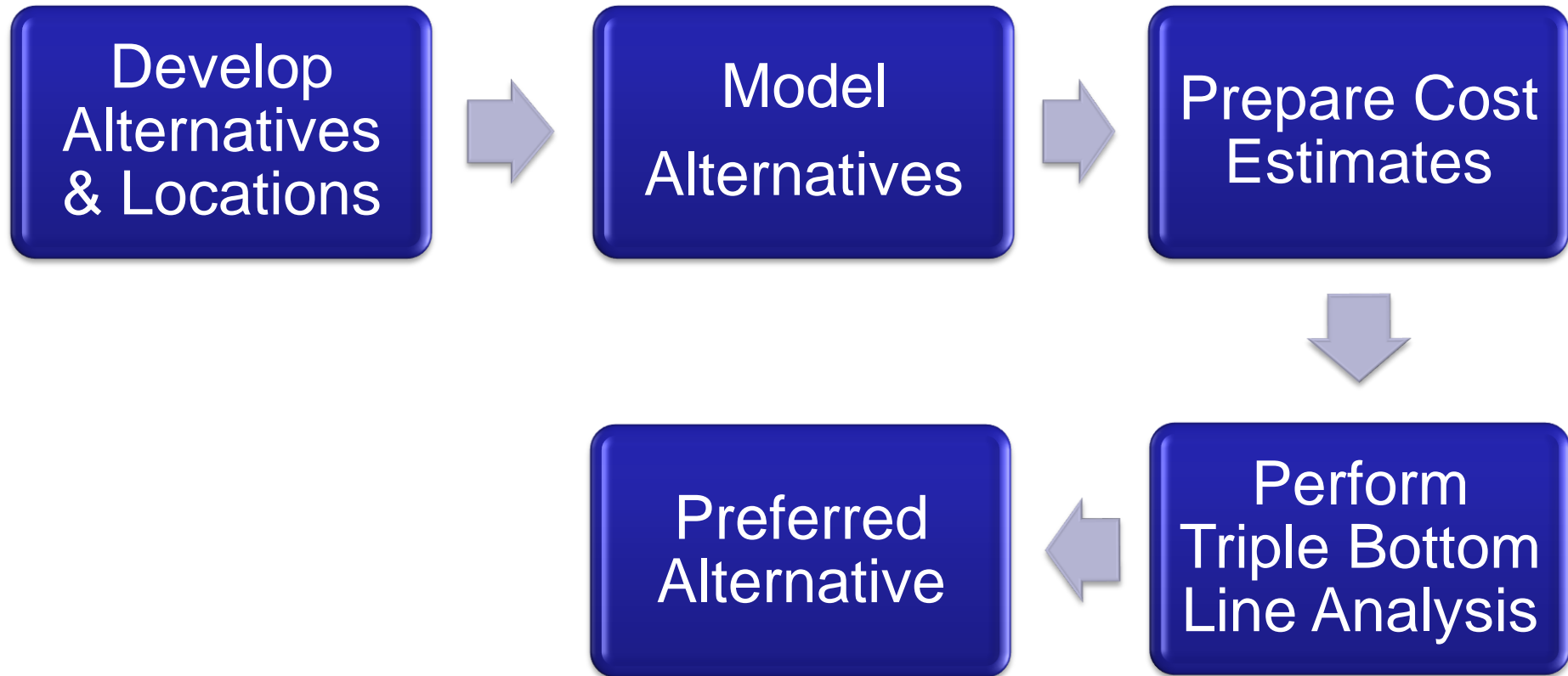


# Henderson CSO Basins



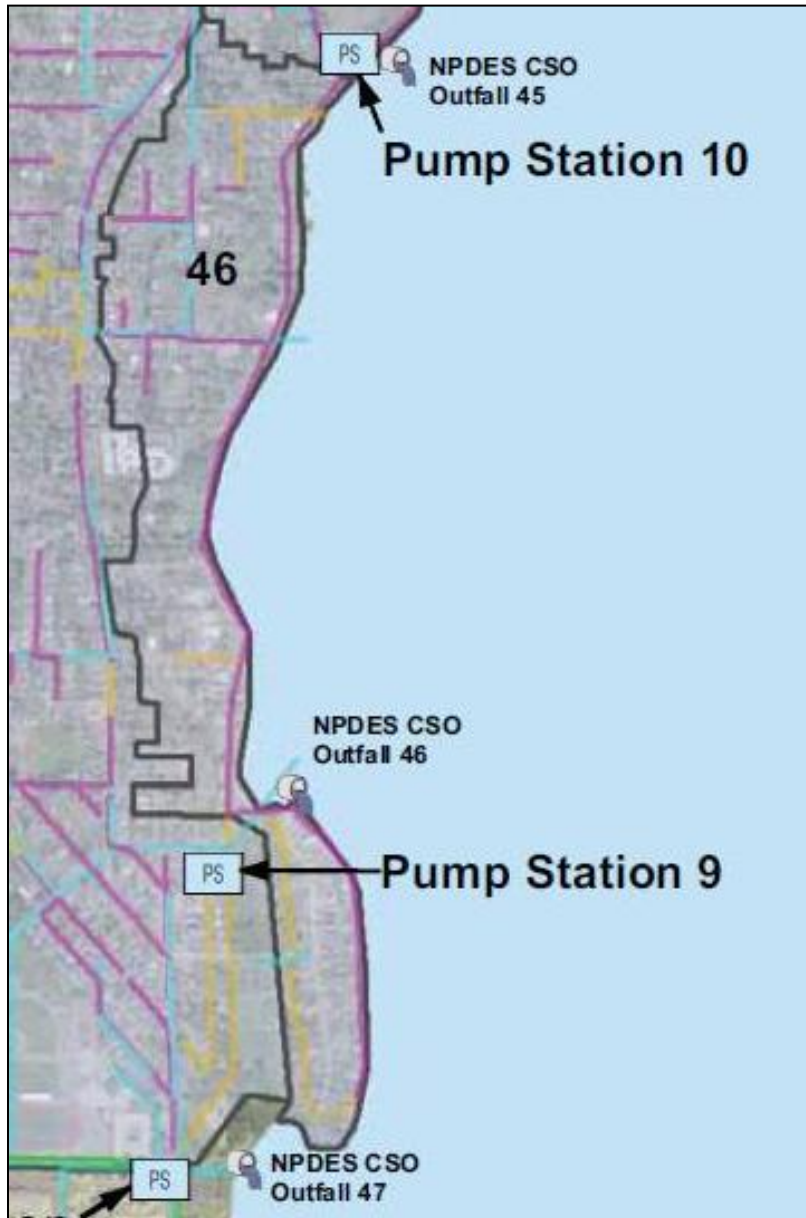
- Top-Priority for CSO reduction
- 1,800 Acres
- Seven basins
- CSOs discharge from the basins approximately 17 times per year
- Construction projects to reduce CSOs in Henderson South must begin by May 31, 2015.

# Henderson CSO Reduction Screening Process





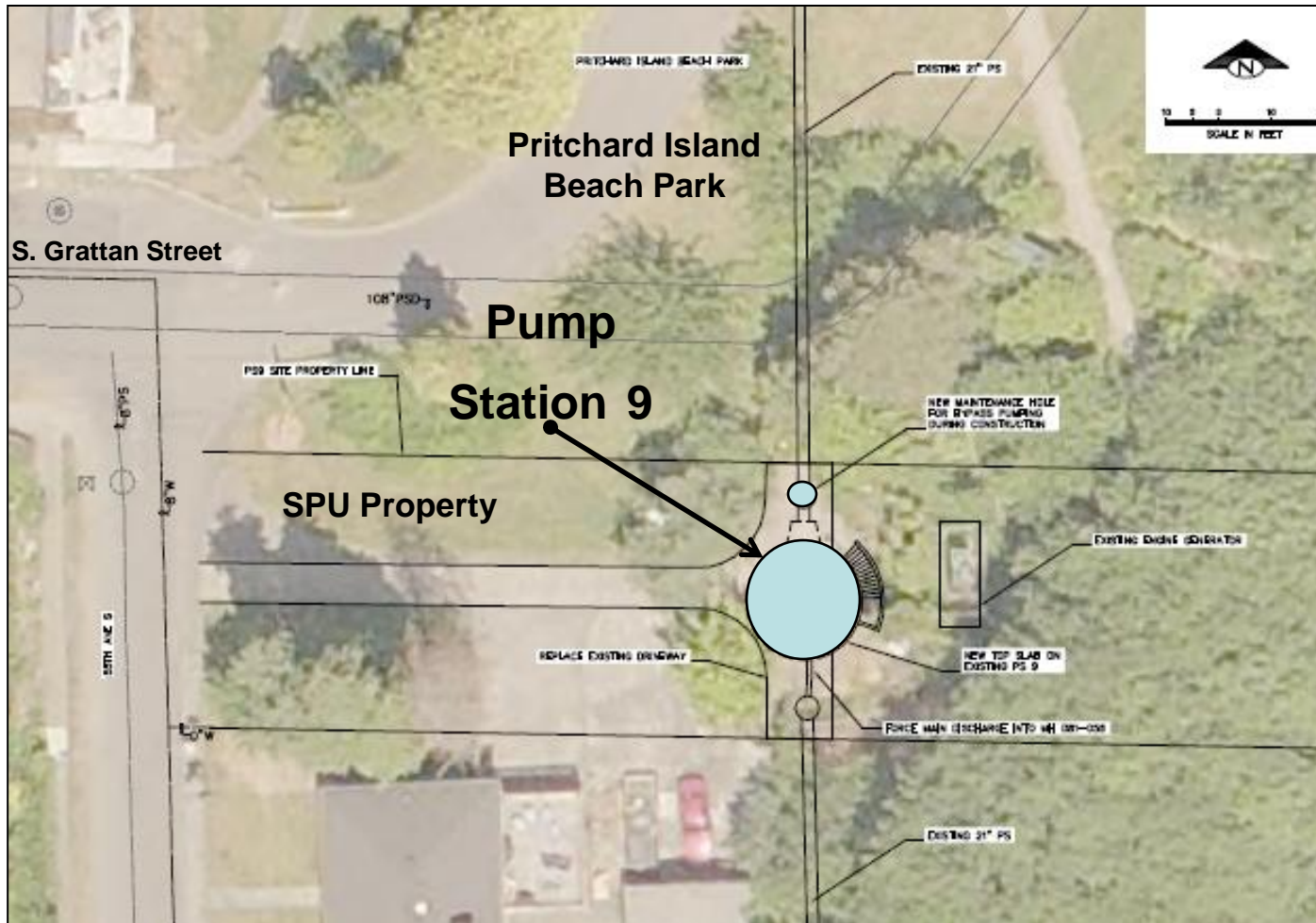
# CSO Basin 46 Overview



- Outfall is located at Pritchard Island Beach Park
- In 2010, 12 CSOs discharged approx. 4.2 million gallons of untreated combined sewage into Lake Washington
- Alternatives considered:
  - Storage in Pritchard Island Beach Park Parking Lot
  - **Pump Station 9 Upgrade**



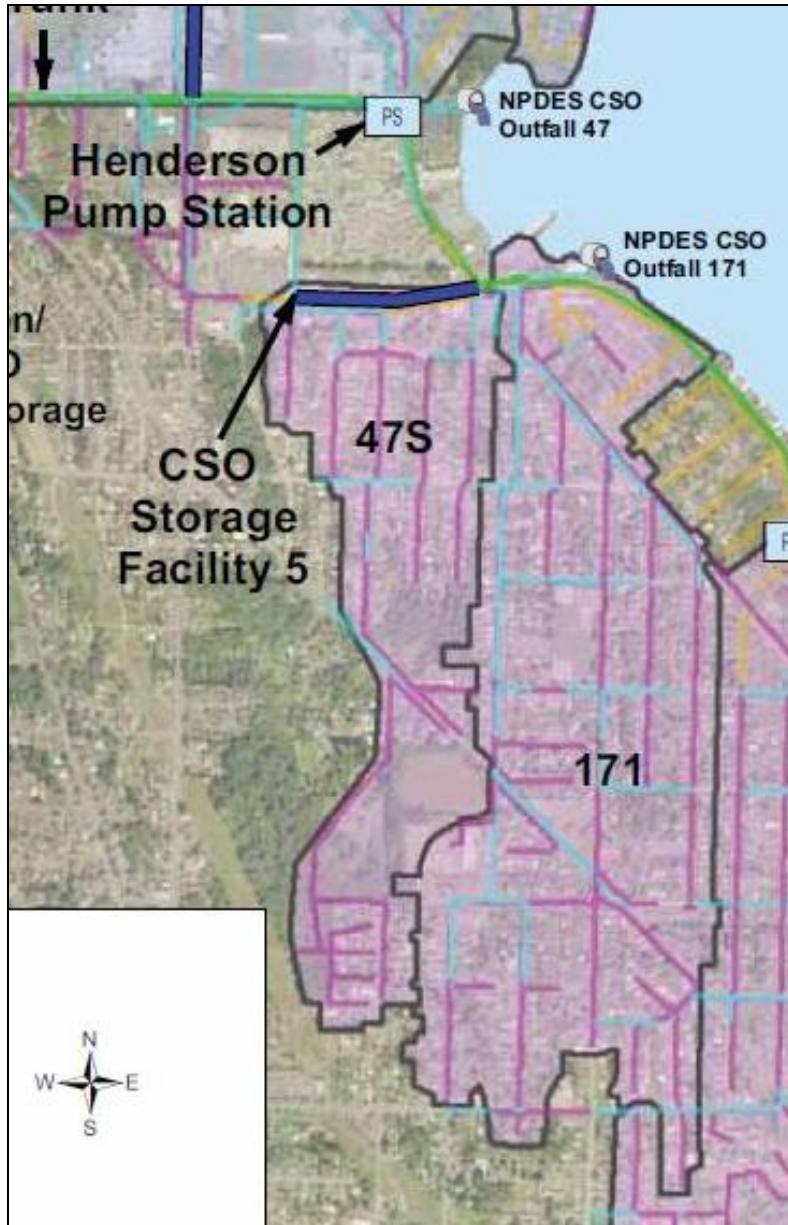
# Basin 46 Preferred Alternative: Retrofit Existing Pump Station



## Includes:

- Add third pump to existing pump station.
- Retrofit existing structure.
- Add maintenance hole.

# CSO Basins 47/171 Overview



- Outfall 47 is north of the Atlantic City Boat Ramp; Outfall 171 is near Chinook Beach Park
- In 2010, 8 CSOs from outfall 47 and 5 from outfall 171 discharged approx. 14.2 million gallons of untreated combined sewage to Lake Washington
- Alternatives considered:
  - Storage along Rainier Ave
  - **Conveyance to King County's Henderson St Pump Station**



# Basins 47/171 Conveyance Alternatives

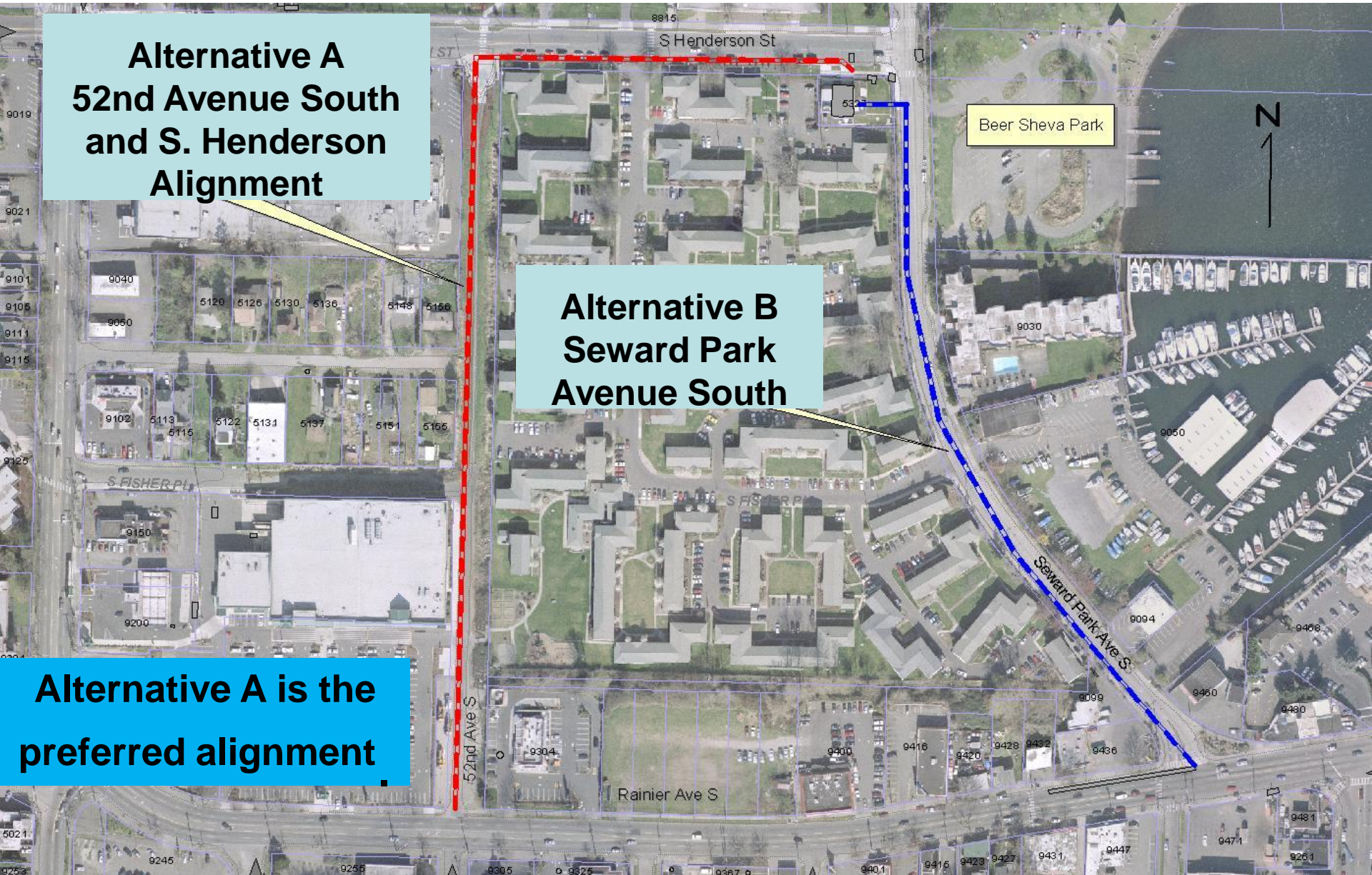
**Alternative A  
52nd Avenue South  
and S. Henderson  
Alignment**

**Alternative B  
Seward Park  
Avenue South**

Beer Sheva Park



**Alternative A is the  
preferred alignment**



# Basins 47/171 *Preferred* Alternative A (compared to Alternative B)

- Less traffic impacts than Seward Park Ave S
- Lower total project cost
- Can be coordinated with the Mapes Creek Mouth Daylighting Project

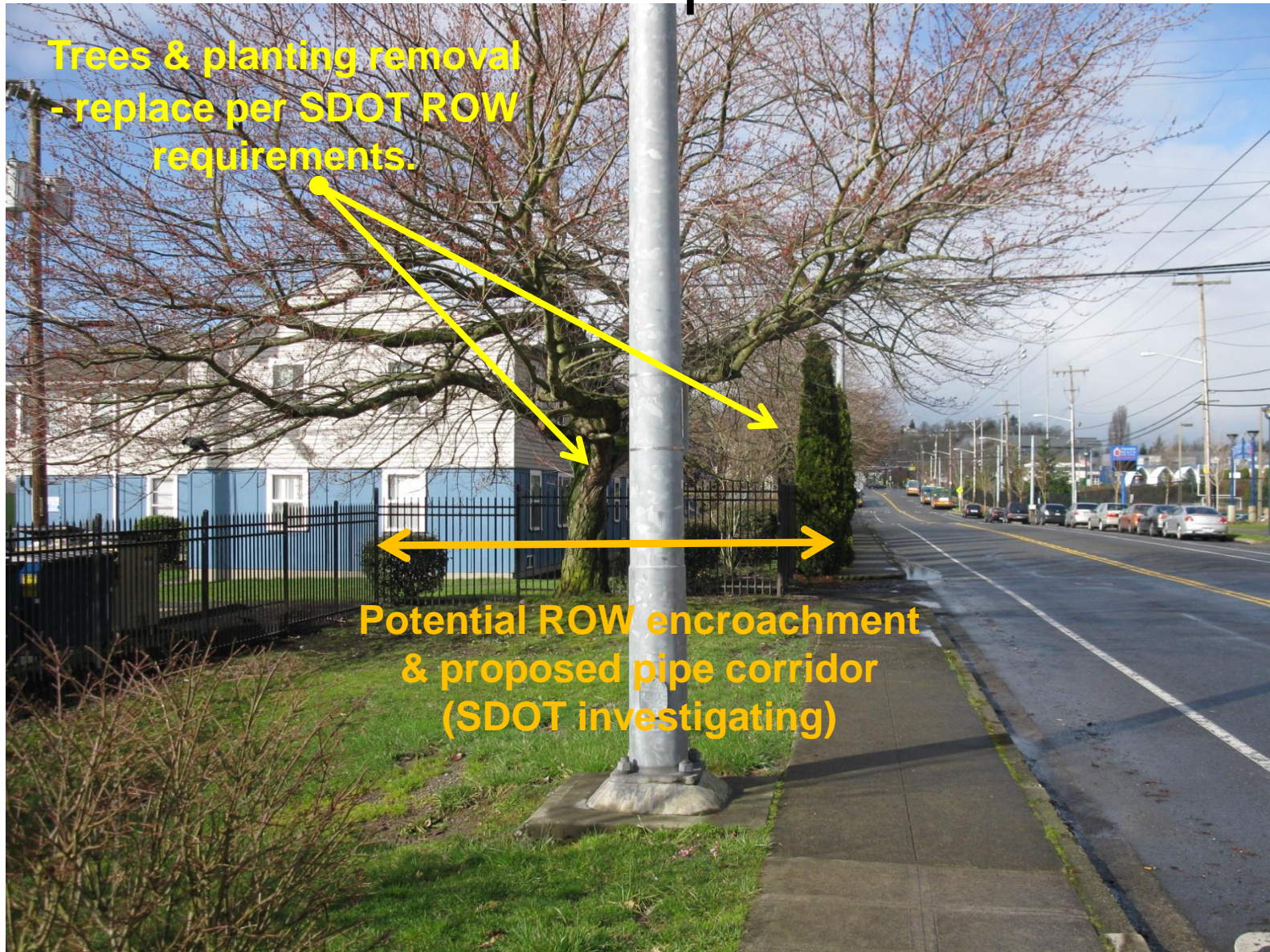


# Basins 47/171 *Preferred*

## Alternative A – Some Impacts

- Construction
  - Noise
  - Temporary closure of walkway and sidewalks
  - Removal and restoration of walkway entrance art
  - Removing right-of-way encroachment on S. Henderson Street (if verified)
  - Removal of existing trees and vegetation within right-of-way along S. Henderson Street
  - Infrequent temporary transit shut-downs on weekends
- Long Term
  - Right-of-way restored along S. Henderson street
  - Right-of-way replanted per SDOT requirements.
  - New walkway surface for 52<sup>nd</sup> Avenue pedestrian corridor
  - Reduction in CSOs and reduced contamination of Lake Washington

# Right-of-way Restoration & Vegetation Removal/Replacement





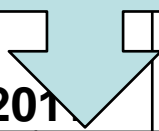
# 52<sup>nd</sup> AVE S Path & Entrance Art



# Preliminary Project Schedule

| South Henderson<br>CSO Reduction<br>Project   |      |  |      |  |      |  |      |  |      |  |      |  |
|---|------|--|------|--|------|--|------|--|------|--|------|--|
|   | 2010 |  | 2011 |  | 2012 |  | 2013 |  | 2014 |  | 2015 |  |
| Planning & Site<br>Selection  |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |
| Design  |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |
| Construction &<br>Closeout<br><br>Basin 46<br>(Pump Station Upgrade)<br>Basin 47/171<br>(Conveyance Pipeline) |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |
| Outreach  |      |  |      |  |      |  |      |  |      |  |      |  |
|   |      |  |      |  |      |  |      |  |      |  |      |  |

Draft Report  
due to  
Ecology





# Next Steps

## 💧 Basin 47/171 (conveyance pipe)

- 💧 Submit Engineering Report to Ecology for approval (August 30, 2011)
- 💧 Issue SEPA Checklist and Threshold Determination (Summer/Fall 2011)
- 💧 Verify Right-of-Way location along South Henderson Street (2011).
- 💧 Verify Mapes Creek Mouth Daylighting schedule & coordinate (2011).

## 💧 Basin 46 (Pump Station upgrade)

- 💧 Submit Engineering Report to Ecology for Approval
- 💧 Design & obtain permits (2011-2012)
- 💧 Construct (2013-2014)

# **Project Outreach**

**Presentations and briefings to community:**

- ✓ **June 23, 2010** - Southeast District Council
- ✓ **May 26, 2011** - Public Meeting

# On-going Project Communications

---

- ❑ SPU will send out project updates through the e-mail distribution list (listserv)
- ❑ Presentations, project updates, and other information will be posted to the project website ([www.seattle.gov/cso/](http://www.seattle.gov/cso/))
- ❑ You can send emails directly to the project team ([SPU\\_HCSO@Seattle.gov](mailto:SPU_HCSO@Seattle.gov))
- ❑ You can call and leave a message for the project team (206-826-4767)

# Contact Information

[SPU\\_HCSO@Seattle.gov](mailto:SPU_HCSO@Seattle.gov)

206-826-4767

[www.seattle.gov/CSO](http://www.seattle.gov/CSO)

If you would like to be included on the project email list – sign up in back, or sign up at [www.Seattle.gov/cso/](http://www.Seattle.gov/cso/)